

CLAIMS

What is claimed is:

1. A rotary circuit selection device, comprising:
a driving cam and an opposing stationary cam each having a series of alternating peaks and valleys;
a biasing mechanism configured to bias the driving cam toward the stationary cam such that the peaks of each cam are received by the valleys of the opposing cam; and
a shaft that rotates and translates the driving cam in relation to the stationary cam in order to select the circuit.
2. The device of claim 1, wherein the circuit comprises electrical components.
3. The device of claim 1, wherein the circuit comprises optical components.
4. The device of claim 1, wherein the circuit comprises magnetic components.
5. The switch of claim 1, wherein each peak has an angle formed by converging sides of the peak and each valley has an angle formed by converging sides of the valley, and wherein the angles of the peaks and the angles of the valleys are substantially equal.
6. The switch of claim 1, wherein the biasing mechanism is a compression spring.
7. The switch of claim 6, wherein the spring has an outer diameter less than an outer diameter of the driving cam.
8. The switch of claim 6, wherein the spring has an outer diameter greater than an outer diameter of the driving cam.
9. The switch of claim 8, further comprising a washer disposed between the spring and the driving cam.
10. The switch of claim 1, wherein each cam has 8 peaks and 8 valleys.
11. The switch of claim 1, wherein each cam has 10 peaks and 10 valleys.

12. The switch of claim 1, wherein the shaft extends through inner apertures of each cam.
13. The switch of claim 1, wherein an amount of torque required to rotate the shaft is at least partly based on an amount of force of the biasing mechanism.
14. A method of changing a circuit, comprising:
providing a driving cam and an opposing stationary cam, each having a plurality of alternating peaks and valleys;
selecting a first circuit by aligning particular peaks with particular valleys; and
subsequently
selecting a second circuit by torquing the driving cam relative to the stationary cam in order to align other peaks with other valleys.
15. The method of claim 14, wherein the step of selecting a first circuit further comprises a step of biasing the driving cam toward the stationary cam.
16. The method of claim 14, wherein the step of torquing the driving cam causes the driving cam to translate between a received configuration and a distal configuration.
17. The method of claim 14, wherein the step of selecting a second circuit further comprises a step of aligning an electrical contact with a trace on a printed circuit board.
18. The method of claim 14, wherein the step of selecting a second circuit further comprises a step of providing a path from an optical source to an optical sensor.
19. The method of claim 14, wherein the step of selecting a second circuit further comprises a step of aligning a magnetic source with a magnetic receiver.